```
FFFFFFFFFFFFFFF    000000000    RRRRRRRRRRRR    RRRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
FFFFFFFFFFFFFFF    000000000    RRRRRRRRRRRR    RRRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
FFFFFFFFFFFFFFF    000000000    RRRRRRRRRRRR    RRRRRRRRRRRR    TTTTTTTTTTTTTTT  LLL
FFF              000     000    RRR      RRR    RRR      RRR         TTT         LLL
FFF              000     000    RRR      RRR    RRR      RRR         TTT         LLL
FFF              000     000    RRR      RRR    RRR      RRR         TTT         LLL
FFF              000     000    RRR      RRR    RRR      RRR         TTT         LLL
FFF              000     000    RRR      RRR    RRR      RRR         TTT         LLL
FFFFFFFFFFF      000     000    RRRRRRRRRRR     RRRRRRRRRRR          TTT         LLL
FFFFFFFFFFF      000     000    RRRRRRRRRRR     RRRRRRRRRRR          TTT         LLL
FFFFFFFFFFF      000     000    RRRRRRRRRR      RRRRRRRRRR           TTT         LLL
FFF              000     000    RRR  RRR        RRR  RRR             TTT         LLL
FFF              000     000    RRR  RRR        RRR  RRR             TTT         LLL
FFF              000     000    RRR   RRR       RRR   RRR            TTT         LLL
FFF              000     000    RRR    RRR      RRR    RRR           TTT         LLL
FFF              000     000    RRR    RRR      RRR    RRR           TTT         LLL
FFF              000     000    RRR     RRR     RRR     RRR          TTT         LLL
FFF                000000000    RRR      RRR    RRR      RRR         TTT         LLLLLLLLLLLLLLL
FFF                000000000    RRR      RRR    RRR      RRR         TTT         LLLLLLLLLLLLLLL
FFF                000000000    RRR      RRR    RRR      RRR         TTT         LLLLLLLLLLLLLLL
```

FILEID**FORENCOMF

```
FFFFFFFFFF   000000    RRRRRRRR    EEEEEEEEEE  NN      NN   CCCCCCCC    000000    MM      MM  FFFFFFFFFF
FFFFFFFFFF   000000    RRRRRRRR    EEEEEEEEEE  NN      NN   CCCCCCCC    000000    MM      MM  FFFFFFFFFF
FF          00    00   RR     RR   EE          NN      NN  CC          00    00   MMMM  MMMM  FF
FF          00    00   RR     RR   EE          NN      NN  CC          00    00   MMMM  MMMM  FF
FF          00    00   RR     RR   EE          NNNN    NN  CC          00    00   MM  MM  MM  FF
FF          00    00   RR     RR   EE          NNNN    NN  CC          00    00   MM  MM  MM  FF
FFFFFFFF    00    00   RRRRRRRR    EEEEEEE     NN  NN  NN  CC          00    00   MM      MM  FFFFFFFF
FFFFFFFF    00    00   RRRRRRRR    EEEEEEE     NN  NN  NN  CC          00    00   MM      MM  FFFFFFFF
FF          00    00   RR   RR     EE          NN    NNNN  CC          00    00   MM      MM  FF
FF          00    00   RR   RR     EE          NN    NNNN  CC          00    00   MM      MM  FF
FF          00    00   RR     RR   EE          NN      NN  CC          00    00   MM      MM  FF
FF          00    00   RR     RR   EE          NN      NN  CC          00    00   MM      MM  FF
FF          000000     RR     RR   EEEEEEEEEE  NN      NN   CCCCCCCC    000000    MM      MM  FF
FF          000000     RR     RR   EEEEEEEEEE  NN      NN   CCCCCCCC    000000    MM      MM  FF


LL             IIIIII     SSSSSSSS
LL             IIIIII     SSSSSSSS
LL               II       SS
LL               II       SS
LL               II       SS
LL               II        SSSSSS
LL               II        SSSSSS
LL               II              SS
LL               II              SS
LL               II              SS
LL               II              SS
LLLLLLLLLL     IIIIII     SSSSSSSS
LLLLLLLLLL     IIIIII     SSSSSSSS
```

```
0000        1              .TITLE  FOR$ENCODE_MF - entry point for FORTRAN ENCODE FORMATTED
0000        2              .IDENT  /1-011/          File: FORENCOMF.MAR  Edit: JAW1011
0000        3      ;
0000        4      ;*******************************************************************************
0000        5      ;*                                                                             *
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0000       22      ;*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                    *
0000       23      ;*                                                                             *
0000       24      ;*                                                                             *
0000       25      ;*******************************************************************************
0000       26
0000       27
0000       28      ;++
0000       29      ; FACILITY: FORTRAN Support Library - user callable
0000       30      ;
0000       31      ; ABSTRACT:
0000       32      ;
0000       33      ;       This module contains the entry point for the FORTRAN
0000       34      ;       ENCODE FORMATTED I/O statement.  It is simply
0000       35      ;       a call to FOR$$IO_BEG with bits in R0 which describe the
0000       36      ;       parameter list.  FOR$$IO_BEG interprets the parameters.
0000       37      ;
0000       38      ; MAINTENANCE NOTE:
0000       39      ;       The transfer vector (RTLVECTOR+ALLGBL) must have the following:
0000       40      ;
0000       41      ;       .TRANSFER         FOR$ENCODE_MF
0000       42      ;       .MASK             FOR$$IO_BEG
0000       43      ;       BRW               FOR$ENCODE_MF+2
0000       44      ;
0000       45      ;       This puts the correct mask in entry vector, that is FOR$$IO_BEG entry mask.
0000       46      ;       Furthermore this module must only use R0 and R1
0000       47      ;       since any other register might not be in the entry mask for FOR$$IO_BEG.
0000       48
0000       49      ; ENVIRONMENT: User access mode; mixture of AST level or not
0000       50
0000       51      ; AUTHOR:        Richard B. Grove, CREATION DATE: 28-May-78
0000       52
0000       53      ; MODIFIED BY:
0000       54      ;       T. Hastings, 29-July-78
```

```
0000    56                    .SBTTL  HISTORY            ; Detailed Current Edit History
0000    57
0000    58
0000    59  ; Edit History for Version 1
0000    60  ;
0000    61  ; 0-10  - Add comment about vectors.  TNH 23-June-78
0000    62  ; 0-12  - Pass arg in R0, not R0R, add comments.  TNH 29-July-78
0000    63  ; 1-001 - Update version number and copyright notice.  JBS 16-NOV-78
0000    64  ; 1-002 - Change statement type symbols to be LUB$K...  JBS 07-DEC-78
0000    65  ; 1-003 - Change statement type symbols to be ISB$K...  JBS 11-DEC-78
0000    66  ; 1-004 - Add A '' to the PSECT directive.  JBS 22-DEC-78
0000    67  ; 1-005 - Add FOR$READ_KF, FOR$READ_KO, FOR$REWRITE_SF, FOR$REWRITE_SO,
0000    68  ;              FOR$READ_IF, FOR$READ_IO, FOR$WRITE_IF, FOR$WRITE_IO,
0000    69  ;              FOR$READ_KU, FOR$REWRITE_SU,
0000    70  ;              SBL 2-May-1979
0000    71  ; 1-006 - Remove all entry points that need object time formatting,
0000    72  ;              putting them in FOR$ENTRY_OBJ so that we can arrange to
0000    73  ;              load the format compiler only when it is needed.
0000    74  ;              JBS 26-JUN-1979
0000    75  ; 1-007 - Remove entry point FOR$ENCODE_MF; we will code a new module
0000    76  ;              for it and FOR$$IO_BEG, to see how much I/O initiation time
0000    77  ;              improves.  JBS 02-JUL-1979
0000    78  ; 1-008 - Do likewuse for FOR$READ_DU and FOR$WRITE_DU.  JBS 03-JUL-1979
0000    79  ; 1-009 - Remove all entry points except FOR$ENCODE_MF; each of the
0000    80  ;              others gets its own module so we can selectively load
0000    81  ;              the necessary UDF and REC modules.  JBS 09-JUL-1979
0000    82  ; 1-010 - New parameter format for FOR$$IO_BEG.  SBL 5-Dec-1979
0000    83  ; 1-011 - Change BRW FOR$$IO_BEG+2 to JMP G^FOR$$IO_BEG+2.  JAW 21-Feb-1981
```

```
        0000        85                    .SBTTL  DECLARATIONS
        0000        86
        0000        87 ;
        0000        88 ; INCLUDE FILES:
        0000        89 ;
        0000        90
        0000        91            $FORPAR                                ; Define inter-module FORTRAN symbols
        0000        92            $ISBDEF                                ; Define statement type symbols
        0000        93
        0000        94 ;
        0000        95 ; EXTERNAL SYMBOLS:
        0000        96 ;
        0000        97
        0000        98            .DSABL  GBL                            ; Declare all external symbols
        0000        99            .EXTRN  FOR$$IO_BEG                    ; common I/O statement processing
        0000       100 ;+
        0000       101 ; The following references are to make sure the necessary UDF and REC
        0000       102 ; modules are loaded.  These are the routines which are called through
        0000       103 ; the dispatch tables in FOR$$DISPAT.
        0000       104 ;-
        0000       105            .EXTRN  FOR$$UDF_WF0, FOR$$UDF_WF1, FOR$$UDF_WF9
        0000       106            .EXTRN  FOR$$REC_WMF0, FOR$$REC_WMF1, FOR$$REC_WMF9
        0000       107
        0000       108 ;
        0000       109 ; MACROS:
        0000       110 ;
        0000       111 ;          NONE
        0000       112 ;
        0000       113 ; PSECT DECLARATIONS:
        0000       114 ;
        0000       115
    00000000       116            .PSECT  _FOR$CODE PIC,USR,CON,REL,LCL,SHR,EXE,RD,NOWRT,LONG
        0000       117
        0000       118 ;
        0000       119 ; EQUATED SYMBOLS:
        0000       120 ;
        0000       121
        0000       122
        0000       123 ;
        0000       124 ; OWN STORAGE:
        0000       125 ;
        0000       126 ;          NONE
        0000       127 ;
```

```
                      0000   129              .SBTTL  FOR$ENCODE_MF - ENCODE formatted
                      0000   130
                      0000   131  ;++
                      0000   132  ; FUNCTIONAL DESCRIPTION:
                      0000   133  ;
                      0000   134  ;       Initialize the FORTRAN I/O system to perform
                      0000   135  ;       a ENCODE formatted I/O statement.
                      0000   136  ;
                      0000   137  ; CALLING SEQUENCE:
                      0000   138  ;
                      0000   139  ;       CALL FOR$ENCODE_MF (char_cnt.rlu.v, format_adr.mbu.ra, usr_buf_adr.wt.ra
                      0000   140  ;               [, err_adr.j.r [, end_adr.j.r]])
                      0000   141  ;
                      0000   142  ; INPUT PARAMETERS:
                      0000   143  ;
                      0000   144  ;       unit.rl.v               logical unit number
                      0000   145  ;       format_adr.mbu.ra       adr. of compiled format byte array
                      0000   146  ;       usr_buf_adr.wt.ra       adr. of user's buffer
                      0000   147  ;       [err_adr.j.r]           optional ERR= address
                      0000   148  ;       [end_adr.j.r]           optional END= address
                      0000   149  ;
                      0000   150  ; IMPLICIT INPUTS:
                      0000   151  ;
                      0000   152  ;       NONE except those used by FOR$$IO_BEG.
                      0000   153  ;
                      0000   154  ; OUTPUT PARAMETERS:
                      0000   155  ;
                      0000   156  ;       NONE
                      0000   157  ;
                      0000   158  ; IMPLICIT OUTPUTS:
                      0000   159  ;
                      0000   160  ;       NONE except those left by FOR$$IO_BEG.
                      0000   161  ;
                      0000   162  ; COMPLETION CODES:
                      0000   163  ;
                      0000   164  ;       NONE
                      0000   165  ;
                      0000   166  ; SIDE EFFECTS:
                      0000   167  ;
                      0000   168  ;       NONE except those of FOR$$IO_BEG.
                      0000   169  ;
                      0000   170  ;--
                      0000   171
               0000'  0000   172  FOR$ENCODE_MF::  .MASK   FOR$$IO_BEG
     50   0B     9A   0002   173           MOVZBL  #ISB$K_ST_TY_WMF, R0      ; Statement type
 00000002'GF     17   0005   174           JMP     G^FOR$$IO_BEG+2          ; branch past call mask
                      000B   175
                      000B   176
                      000B   177           .END
```

```
FOR$$IO_BEG                    ********   X    00
FOR$$REC_WMF0                  ********   X    00
FOR$$REC_WMF1                  ********   X    00
FOR$$REC_WMF9                  ********   X    00
FOR$$UDF_WF0                   ********   X    00
FOR$$UDF_WF1                   ********   X    00
FOR$$UDF_WF9                   ********   X    00
FOR$ENCODE_MF                  00000000  RG    01
ISB$K_ST_TY_WMF              = 0000000B
```

```
                    +-----------------+
                    ! Psect synopsis  !
                    +-----------------+
```

PSECT name	Allocation	PSECT No.	Attributes										
. ABS .	00000000 (0.)	00 (0.)	NOPIC	USR	CON	ABS	LCL	NOSHR	NOEXE	NORD	NOWRT	NOVEC	BYTE
_FOR$CODE	0000000B (11.)	01 (1.)	PIC	USR	CON	REL	LCL	SHR	EXE	RD	NOWRT	NOVEC	LONG

```
                    +-------------------------+
                    ! Performance indicators  !
                    +-------------------------+
```

Phase	Page faults	CPU Time	Elapsed Time
Initialization	31	00:00:00.08	00:00:00.80
Command processing	117	00:00:00.58	00:00:03.15
Pass 1	124	00:00:01.27	00:00:04.84
Symbol table sort	0	00:00:00.19	00:00:00.28
Pass 2	48	00:00:00.49	00:00:01.67
Symbol table output	3	00:00:00.02	00:00:00.02
Psect synopsis output	2	00:00:00.00	00:00:00.04
Cross-reference output	0	00:00:00.00	00:00:00.00
Assembler run totals	327	00:00:02.66	00:00:10.83

The working set limit was 900 pages.
6671 bytes (14 pages) of virtual memory were used to buffer the intermediate code.
There were 20 pages of symbol table space allocated to hold 187 non-local and 0 local symbols.
177 source lines were read in Pass 1, producing 8 object records in Pass 2.
9 pages of virtual memory were used to define 2 macros.

```
                    +---------------------------+
                    ! Macro library statistics  !
                    +---------------------------+
```

Macro library name	Macros defined
_255DUA28:[FORRTL.OBJ]FORRTL.MLB;1	2
_255DUA28:[SYSLIB]STARLET.MLB;2	0
TOTALS (all libraries)	2

183 GETS were required to define 2 macros.

There were no errors, warnings or information messages.

MACRO/ENABLE=SUPPRESSION/DISABLE=(GLOBAL,TRACEBACK)/LIS=LIS$:FORENCOMF/OBJ=OBJ$:FORENCOMF MSRC$:FORENCOMF/UPDATE=(ENH$:FORENCOMF)+LI

FORFIND
LIS

FORFMTINT
LIS

FOREXITHA
LIS

FORENODEF
LIS

FORENCOMF
LIS

FORIDATE
LIS

FORENDFIL
LIS

FORERRSNS
LIS

FOREXIT
LIS

FORERROR
LIS

FORFMTCP
LIS

FORENCOMO
LIS

FORINIDES
LIS